## **Abstract**

The inventive method for hydrogen sulphide and/or mercaptans decomposition consists in passing hydrogen sulphide and/or mercaptan-containing gas at a temperature less than 200°C through a hard material layer (catalyst) which decomposes said hydrogen sulphide or mercaptans in such a way that hydrogen or hydrocarbons are released and sulphur-containing compounds are formed on a material surface. Said hard material is placed in a liquid medium layer. Said invention makes it possible to use a hard material (catalyst) without a periodical regeneration thereof.

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